

AMENDMENTS TO THE CLAIMS

Please amend Claims 9-11, 13, 16, 18-21, 25 and 26 as indicated below. Please also cancel Claims 12 and 24, and add new Claims 27-31.

Claims 1-8 (Canceled).

9. (Currently amended) A method for controlling battery power comprising the acts of:

~~selectively providing~~ coupling a first input terminal for receiving a first external power source to a system power terminal via a first isolation diode;

coupling a second input terminal for receiving ~~or~~ a second external power source to a device coupled to [[a]] the system power terminal via a second isolation diode

coupling a first bypass transistor across the first isolation diode, wherein the first bypass transistor is turned on when the first external power source is selected to provide power to the system power terminal;

coupling a second bypass transistor across the second isolation diode, wherein the second bypass transistor is turned on when the second external power source is selected to provide power to the system power terminal and forced off to effectively isolate the second external power from the system power terminal when the first external power source is detected at the first input terminal;

coupling an internal battery to the system power terminal via a series-connected regulating transistor; and

charging the internal battery by linearly regulating the regulating transistor with an adjustable voltage at a control terminal of the regulating transistor to conduct a charging current in a first direction from the system power terminal to a positive battery terminal of the internal battery during a charging mode, wherein the level of the current provided to the internal battery is controlled by the level of the adjustable voltage to prevent a supply current from exceeding a predefined threshold.

10. (Currently amended) The method of Claim 9, further comprising the act of discharging the internal battery by regulating the regulating transistor to conduct a discharging current in a second direction from the positive ~~battery~~ terminal of the internal battery to the

system power terminal during a discharging mode, wherein the first bypass transistor and the second bypass transistor are turned off during the discharging mode.

11. (Currently amended) The method of Claim 9, wherein the impedance of the regulating transistor varies to limit the level of the charging current.

12. (Canceled).

13. (Currently amended) The method of Claim 10, further comprising sensing a voltage difference between the system power terminal and the positive terminal of the internal battery to determine an operating mode, wherein the charging mode occurs when a voltage at the system power terminal is greater than a voltage at the positive terminal of the internal battery and the discharging mode occurs when the voltage ~~on~~ at the system power terminal is less than the voltage at the positive terminal of the internal battery.

14. (Original) The method of Claim 10, wherein the discharging mode occurs in response to a discharge command.

15. (Canceled).

16. (Currently amended) A method for controlling power to a battery, the method comprising:

selectively providing coupling a first isolation diode between a first input terminal for receiving an external primary power source and a system power terminal, wherein the first isolation diode has an anode coupled to the first input terminal and a cathode coupled to the system power terminal;

coupling a second isolation diode between a second input terminal for receiving ~~or~~ an external secondary power source and the ~~to~~ a system power terminal, wherein the second isolation diode has an anode coupled to the second input terminal and a cathode coupled to the system power terminal ~~of a device with an internal battery;~~

coupling a first bypass transistor across the first isolation diode;

coupling a second bypass transistor across the second isolation diode;

coupling the ~~an~~ internal battery to the system power terminal through a regulating transistor; and

driving a control terminal of the regulating transistor with a driving signal having linearly adjustable voltage levels to linearly regulate the level of current conducted by the

regulating transistor to charge the internal battery, wherein the level of current provided to the internal battery is determined by the voltage level of the driving signal.

17. **(Previously presented)** The method of Claim 16, wherein the external primary power source is an AC adapter and the external secondary power source is a Universal Serial Bus power interface.

18. **(Currently amended)** The method of Claim 16, further comprising:
sensing current supplied by the external secondary power source and generating an associated current sense signal;
comparing the current sense signal with a threshold value; and
overriding the driving signal to reduce the regulating transistor's current level when the current sense signal exceeds the threshold value.

19. **(Currently amended)** The method of Claim 16, wherein the regulating transistor is a P-channel enhancement mode MOSFET with a source terminal coupled to the system power terminal and a drain terminal coupled to the internal battery.

20. **(Currently amended)** The method of Claim 16, wherein the regulating transistor is a MOSFET with a configurable body contact, and a comparator is used to sense a voltage polarity of the regulating transistor to generate an output to control connections for the configurable body contact.

21. **(Currently amended)** The method of Claim 16, further comprising coupling an overriding diode between the first input terminal and a control terminal of the second bypass transistor wherein to automatically disconnect the external secondary power source is automatically disconnected from the system power terminal when the external primary power source is connected to the first input terminal.

22. **(Previously presented)** The method of Claim 20, wherein the configurable body contact is coupled to the system power terminal during a charging mode and to the internal battery during a discharging mode.

23. **(Previously presented)** The method of Claim 20, wherein the configurable body contact is coupled to a transistor terminal with a relatively higher voltage during a shutdown mode to prevent current flow in a body diode and thereby fully disconnecting the internal battery from the system power terminal.

24. (Canceled).

25. (Currently amended) The method of Claim 9, further comprising the acts of:
sensing a voltage difference between the system power terminal and the positive battery terminal; and
~~to generate~~ generating a feedback control signal ~~usable for varying~~ operative to vary the level of the adjustable voltage at the control terminal of the regulating transistor based on the voltage difference and a voltage at the control terminal of the regulating transistor.

26. (Currently amended) The method of Claim 9, wherein the regulating transistor has a configurable body contact and fully disconnects the internal battery from the system power terminal during a disable mode.

27. (New): The method of Claim 9, further comprising coupling an override diode between the first input terminal and a control terminal of the second bypass transistor, wherein the override diode forces the second bypass transistor to turn off when the first external power source is coupled to the first input terminal.

28. (New): The method of Claim 25, further comprising:
sensing current being supplied by the second external power source;
comparing the sensed current with the predefined threshold; and
generating an error signal to override the feedback control signal and to control the level of the adjustable voltage for the regulating transistor when the sensed current is greater than the predefined threshold.

29. (New): The method of Claim 16, wherein the first and second bypass transistors are p-type transistors and pull-up resistors are coupled between respective control terminals of the bypass transistors and the system power terminal while pull-down transistors are coupled between the respective control terminals of the bypass transistors and a reference potential to selectively activate the bypass transistors.

30. (New): The method of Claim 20, further comprising using the voltage polarity of the regulating transistor to qualify an external discharge signal.

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31. (New): The method of Claim 22, further comprising coupling a switching diode across the regulating transistor to improve battery response during the discharging mode, wherein the switching diode is inactive during the charging mode.